

## ME 8: Containerization and Docker

### Exercise 4: Sharing images

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#### I. Setting up the server

```
C:\Users\tingc>docker images
REPOSITORY          TAG             IMAGE ID        CREATED         SIZE
tbmortaba/ping      1.0             6db9cd5f574f   44 minutes ago  139MB
ubuntu              16.04           9ff95a467e45   3 weeks ago    135MB
spotify/kafka       latest          a9e0a5b8b15e   4 years ago    443MB

C:\Users\tingc>docker rmi spotify/kafka
Untagged: spotify/kafka:latest
Untagged: spotify/kafka@sha256:cf8f8f760b48a07fb99df24fab8201ec8b647634751e842b67103a25a388981b
Deleted: sha256:a9e0a5b8b15e098c94cdb4c7f10a5707949c1ebe45b68c63200829811be16cc4
Deleted: sha256:4c3ddf47a2dc747a8595258a7cde20a16067506fa89c77af39c77a44751c2ff5
Deleted: sha256:59b5efbaf49650d3025b338327fca9fda9db7de1e8e04153aa93a18162615386
Deleted: sha256:afd58b39cc2fecce1103864554212e4eae733acf9d62e73d9133a0ece405fff7
Deleted: sha256:f3a1a3d99f653da387ca4013baa9ef22d7c8fece07ed59e8f58a4f56b83abc2c
Deleted: sha256:8113aeb2cab861669d173e16f8c98e456d9a6007295c072ff03edef13b0ca798
Deleted: sha256:bc56431e365ecc041e72c9a59152b23026932dc179f6fd931ff18cc25c09c0f7
Deleted: sha256:eb1331d9c6673d0cc4adfb7640cad3c3e877f0aa7cb50a80193b0b815089834d
Deleted: sha256:fc78c13bffb1d55f94bfd4363e794661496178215342170a87f9b8080eab6d46
Deleted: sha256:be2878c078e2df267e68687181f8373a31853f79086cac36edbf81ce07b40b28
Deleted: sha256:fe4c16cbf7a4c70a5462654cf2c8f9f69778db280f235229bd98cf8784e878e4

C:\Users\tingc>clear
'clear' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\tingc>reset
'reset' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\tingc>docker run --rm -d --name apache -p 80:80 httpd:2.4
Unable to find image 'httpd:2.4' locally
2.4: Pulling from library/httpd
69692152171a: Pull complete
7284b4e0cc7b: Pull complete
3678b2d55ccd: Pull complete
aeb67982a725: Pull complete
06954f8169fd: Pull complete
Digest: sha256:48bae0ac5d0d75168f1c1282c0eb21b43302cb1b5c5dc9fa3b4a758ccfb36fe9
Status: Downloaded newer image for httpd:2.4
fa5f3398248752e92a6ab1c71fbd5b51409f55ea50d003b82af602f0308f6f7f

C:\Users\tingc>curl localhost
<html><body><h1>It works!</h1></body></html>

C:\Users\tingc>docker cp index.html apache:/usr/local/apache2/htdocs

C:\Users\tingc>curl localhost
<html><body><h1>It works in Docker!</h1></body></html>
```

## II. A possible data problem

```
C:\Users\tingc>docker stop apache
apache

C:\Users\tingc>docker run --rm -d --name apache -p 80:80 httpd:2.4
958fffeb0d50b4db83344fed33f789c4f21749a2574fef6ffc45fcd28c0a8cfe

C:\Users\tingc>curl localhost
<html><body><h1>It works!</h1></body></html>
```

## III. Managing volumes

```
C:\Users\tingc>docker volume ls
DRIVER      VOLUME NAME

C:\Users\tingc>docker volume create myvolume
myvolume

C:\Users\tingc>docker volume ls
DRIVER      VOLUME NAME
local       myvolume

C:\Users\tingc>docker volume rm myvolume
myvolume

C:\Users\tingc>docker ls
docker: 'ls' is not a docker command.
See 'docker --help'

C:\Users\tingc>docker volume ls
DRIVER      VOLUME NAME
```

## IV. Mounting volumes on containers

```
C:\Users\tingc>docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS        NAMES

C:\Users\tingc>docker volume ls
DRIVER      VOLUME NAME
local       httpd_htdocs

C:\Users\tingc>docker run --rm -d --name apache -p 80:80 -v httpd_htdocs:/usr/local/apache2/htdocs/ httpd:2.4
71d64036a64d4fb32ef00e036e5d8f95c4c0f4169b1d6b66d4efc8e50742cdac

C:\Users\tingc>curl localhost
<html><body><h1>It works!</h1></body></html>

C:\Users\tingc>docker cp index.html apache:/usr/local/apache2/htdocs

C:\Users\tingc>curl localhost
<html><body><h1>It works in Docker!</h1></body></html>

C:\Users\tingc>docker stop apache
apache

C:\Users\tingc>docker run --rm -d --name apache -p 80:80 -v httpd_htdocs:/usr/local/apache2/htdocs/ httpd:2.4
903752ef578a7b2c2eb69967b3e2ff6b62cbb79a657c3d6866f29dc9645cccb

C:\Users\tingc>curl localhost
<html><body><h1>It works in Docker!</h1></body></html>

C:\Users\tingc>docker stop apache
apache

C:\Users\tingc>docker volume rm httpd_htdocs
httpd_htdocs

C:\Users\tingc>docker volume ls
DRIVER      VOLUME NAME
```

## V. Mounting host directories on containers

```
C:\Users\tingc>cd
C:\Users\tingc
C:\Users\tingc>docker run --rm -d --name apache -p 80:80 -v C:\Users\tingc:\usr/local/apache2/htdocs/ httpd:2.4
b6eb569227b4a360e340805dc1ebe6d05ce847de8a587515fd4cae6ff813cea8
C:\Users\tingc>curl localhost
<html><body><h1>It works in Docker!</h1></body></html>
C:\Users\tingc>curl localhost
<html><body><h1>It works quite well in Docker!</h1></body></html>
C:\Users\tingc>docker stop apache
apache
```